

Contents

Stellar Structure and Evolution

(LE) Discovery of an S star in the Fornax dwarf elliptical galaxy <i>Westerlund, B.E.</i>	L5
Determination of the time scale of the magnetic moment decay in pulsars <i>Nowakowski, L.A.</i>	29
The short-term spectral variability of the T Tauri star RW Aur <i>Appenzeller, I., Östreicher, R., Schiffer, J.G., Egge, K.E., Pettersen, B.R.</i>	75
VW Hydri revisited: conclusions on dwarf nova outburst models <i>Vogt, N.</i>	95
Supplementary information for some γ -ray bursts by SAS-2 anticoincidence dome data <i>Özel, M.E., Kiziloğlu, Ü., Tokdemir, F.</i>	114
Resonance effects in radial pulsators <i>Buchler, J.R.</i>	163
(RN) On the nature of the (intermittent?) emission line star LkH ₃₂₄ <i>Chavarría-K., C., Finkenzeller, U., Appenzeller, I., de Lara, E., Cardona, O.</i>	189
Spectroscopic observations of eclipsing binaries. V. Accurate mass determination for the B-type systems V539 Arae and ζ Phoenicis <i>Andersen, J.</i>	255
Evolution of a Population III star of low mass <i>Guenther, D.B., Demarque, P.</i>	262
On the stability of toroidal flux tubes in differentially rotating stars <i>van Ballegoijen, A.A.</i>	275
Evolution of very low-mass stars <i>van der Linden, T., Staller, R.</i>	285
VBLUW photometry of the magnetic Ap stars HD 137949 (33 Lib), HD 201601 (γ Equ), HD 203006 (θ Mic) and the peculiar shell star HD 190073 <i>Deul, E.R., van Genderen, A.M.</i>	289
A spectrographic study of the β Cephei star 16 Lacertae <i>Le Contel, J.-M., Ducatel, D., Jarzebowski, T., Jerzykiewicz, M., Valtier, J.-C.</i>	294
Near infrared spectroscopy and infrared photometry of a new WC9 star <i>Danks, A.C., Dennefeld, M., Wamsteker, W., Shaver, P.A.</i>	301
The double-mode Cepheid CO Aur <i>Mantegazza, L.</i>	321

EX Hydrae: a coordinated campaign of photoelectric photometry from four observatories <i>Sterken, C., Vogt, N., Freeth, R., Kennedy, H.D., Marino, B.F., Page, A.A., Walker, W.S.G.</i>	325
On the stellar content of the galactic globular cluster M5 <i>Altamore, A., Angeletti, L., Capuzzo-Dolcetta, R., Giannone, P.</i>	332
(RN) Search for light variability of LSI+61°303 <i>Bartolini, C., Custodi, P., Dell'Atti, F., Guarnieri, A., Piccioni, A.</i>	365

Stellar Atmospheres

(LE) GX339-4: X-ray spectra of high and low states <i>Ricketts, M.J.</i>	L3
Spectral fine analysis of the extreme helium star BD +10°2179 <i>Heber, U.</i>	39
Non-LTE analysis of massive O-stars. II. The O4 star ζ Puppis <i>Kudritzki, R.P., Simon, K.P., Hamann, W.-R.</i>	245
A numerical study of the nonlinear Rayleigh-Taylor instability, with application to accreting X-ray sources <i>Wang, Y.-M., Nepveu, M.</i>	267
Spectrophotometry of peculiar B and A stars. XV. α Andromedae, AR Aurigae, 36 Aurigae, 36 Lyncis, ϕ Herculis, HR 6127, and HR 6997 <i>Adelman, S.J., Pyper, D.M.</i>	313

Galactic Structure, Stellar Dynamics

Kinematical studies of open clusters and OB-associations from relative radial velocity observations. II. The Orion Belt region <i>Gieseke, F.</i>	102
(RN) The z-distribution of Am stars <i>Ochsenbein, F.</i>	197
An analytic solution for stellar space densities <i>Reed, B.C.</i>	229
(RN) A virial mass determination of the open cluster NGC 6494 <i>McNamara, B.J., Sanders, W.L.</i>	361

Interstellar Matter

Pressure distribution at the inner boundary of an astropause caused by a compressible stellar wind <i>Fahr, H.J., Neutsch, W.</i>	57
--	----

The O III/O II problem in medium and high excitation planetary nebulae

Che, A., Köppen, J. 107

Optical observations of the LMC H II region N 11

Heydari-Malayeri, M., Testor, G. 116

Aperture synthesis observations of the 21 cm Zeeman effect

Bregman, J.D., Troland, T.H., Forster, J.R., Schwarz, U.J., Goss, W.M., Heiles, C. 157

(RN) Emission-line spectra of H II regions: dependence on metal abundances in the atmosphere of the ionizing star and in the nebular gas

Köppen, J., Schmid-Burgk, J., Scholz, M. 203

A rediscussion of sulfur abundances in Magellanic Clouds and Galactic H II regions

Dennefeld, M., Stasińska, G. 234

HCN $J=1-0$ observations in L673 and S235B: two different cases of hyperfine anomalies

Sandell, G., Höglund, B., Kislyakov, A.G. 306

Six-centimeter H₂CO observations: envelopes of dark clouds

Vanden Bout, P.A., Snell, R.L., Wilson, T.L. 337

Galaxies and Cosmology

(LE) Can all quasars be gravitationally lensed Seyfert's nuclei?

Setti, G., Zamorani, G. L1

H I line studies of galaxies. II. The 21-cm line width as an extragalactic distance indicator

Bottinelli, L., Gouguenheim, L., Paturel, G., de Vaucouleurs, G. 4

The Hubble sequence of masses

Meisels, A. 21

The orientation in space of spiral galaxies in the Local Supercluster

Kapranidis, S., Sullivan III, W.T. 33

Perturbation of the magnitude-redshift relation in an inhomogeneous relativistic model. III. Redshift effect intrinsic to clusters of galaxies

Nottale, L. 85

Calibrated B, V surface photometry of X-ray cD galaxies

Valentijn, E.A. 123

The contribution of quasi-stellar objects to the cosmic X-ray background

Narlikar, J.V., Burbidge, G. 154

NGC 6240: A unique interacting galaxy

Fried, J.W., Schulz, H. 166

The low frequency variability of extragalactic radio sources: discussion of the properties

Fanti, C., Fanti, R., Ficarra, A., Gregorini, L., Mantovani, F., Padrielli, L. 171

An optimal procedure for non-parametric elimination of observational cutoff bias in complete samples

Nicoll, J.F., Segal, I.E. 180

The binary model for type I supernovae: theoretical rates

Greggio, L., Renzini, A. 217

Erratum: The precision on the measure of q_0 using the gravitational lensing effect

Lacroix, G., Schneider, J. 368

The Sun

Two comments on the Sun's differential rotation

Schmidt, W., Stix, M. 1

Self-consistent models of flare heated solar chromospheres

Fang, C., Hénoux, J.C. 139

H₂ production in comets

Pirronello, V., Strazzulla, G., Foti, G. 341

Planetary Systems

Short-period geomagnetic, atmospheric and Earth-rotation variations

Djurović, D. 26

The mass of the Oort cloud

Weissman, P.R. 90

1980-81 observations of Miranda: new orbit and mass of Ariel and Umbriel

Veillet, C. 211

How to maintain the spatial distribution of interplanetary dust

Leinert, C., Röser, S., Buitrago, J. 345

Celestial Mechanics and Astrometry

(RN) Optical positions of four benchmark radio sources

Geffert, M., Richtler, T. 201

Physical Processes

and Astrophysical Plasmas

Coulomb bremsstrahlung and cyclotron emissivity in hot magnetized plasmas

Nagel, W., Ventura, J. 66

Dielectronic satellite spectra of Mg XI with inner-shell and helium-like excitation rates. Application to solar observations

Faucher, P., Loufegue, M., Steenman-Clark, L., Volonté, S. 147

Cosmic-ray shock acceleration in the presence of self-excited waves

Lagage, P.O., Cesarsky, C.J. 223

(RN) Relativistic coherent curvature radiation

Benford, G., Buschauer, R. 358

(RN) Helicity and α -effect of simple convection cells

Stix, M. 363

Instruments, Data Processing, and Numerical Methods

(RN) Reconstruction of a polarized brightness distribution by the maximum entropy method

Nityananda, R., Narayan, R. 194

Abstracts of Articles Which Are Being Published in A. & A. Suppl. Ser. 51, No. 1

Photographic surface photometry of the Milky Way. I. Data and reduction methods (text in German)

Schmidt-Kaler, T., Seidensticker, K.J., Pröll, H.J., Schlosser, W., Beck, R. 206

Photographic surface photometry of the Milky Way. III. Photometry of the central area of the Galaxy in the ultraviolet (text in German)

Pröll, H.J., Schmidt-Kaler, T., Schlosser, W. 207

Photoelectric photometry of the eclipsing binary NN Cephei

Güdür, N., Gülmen, Ö., Sezer, C., Sengonca, H. 208

Positions of Asteroids (1981, Part II)

Debehogne, H., De Sanctis, G., Zappalà, V. 208

Optical counterparts of radio sources from 5 GHz surveys: identification between $RA=4^h$ and $RA=14^h$ <i>Meisenheimer, K., Röser, H.-J.</i>	208	Seasonal light curves of TY UMa: observations and solutions <i>Brogli, P., Conconi, P.</i>	209
Flux density measurements of bright extragalactic sources at 36.8 GHz <i>Salonen, E., Lehto, H., Urpo, S., Teerikorpi, P., Teräsanta, H., Haarala, S., Valtaoja, E., Tähtinen, L., Sillanpää, A., Tiuri, M., Valtonen, M.</i>	208	A multicolour photometric analysis of the eclipsing binary VV Ori <i>Giuricin, G., Mardirossian, F., Mezzetti, M., Chambliss, C.R.</i>	209
Photographic measures of visual double stars <i>Pannunzio, R., Morbidelli, R.</i>	208	Internal motions in planetary nebulae: NGC 7354, I 289 and Hu 1-2 <i>Sabbadin, F., Bianchini, A., Hamzaoglu, E.</i>	210
DQ Cephei, a Delta Scuti Star of constant variability <i>Peña, J.H., Peniche, R., Margrave, T.E., Hobart, M.A., González, S.F.</i>	209	The rotation measures of radio sources in selected celestial zones – the Perseus Arm Window <i>Vallée, J.P.</i>	210
Normalized photoelectric observations for a three-dimensional representation of the light changes of RS Canum Venaticorum <i>Lorenzi, L., Lattanzi, A., Siciliano, F.</i>	209	New observations of positive high velocity clouds <i>Morras, R., Bajaja, E.</i>	210
Positions, magnitudes and colors for stars in the globular cluster M15 <i>Buonanno, R., Buscema, G., Corsi, C.E., Iannicola, G., Fusi Pecci, F.</i>	209	The color-magnitude diagram for stars in the central part of the globular cluster NGC 7089 (M 2) <i>Aurière, M., Cordoni, J.-P.</i>	210
Minor planet positions obtained at Cerro Calán Observatory during 1978–1980 <i>Wroblewski, H., Torres, C., Barros, S., Wischnjewsky, M.</i>	209	A study of visual double stars with early type primaries. I. Spectroscopic results <i>Gahm, G.F., Ahlin, P., Lindroos, K.P.</i>	210
		A study of visual double stars with early type primaries. II. Photometric results <i>Lindroos, K.P.</i>	210